

e) a chamber tray disposable adjacent each process chamber, load lock chamber and transfer chamber, the chamber tray in fluid communication with the facility connections of the plumbing tray.

REMARKS

This is intended as a full and complete response to the Final Office Action dated August 27, 2001. Claims 1, 4, 5, and 7-27 are pending in the application. Claims 23-27 have been withdrawn from consideration by the Examiner. Claims 1, 4, 5, and 7-22 stand rejected. Upon entry of the amendments proposed above, claims 1, 11-16, 18-22, and 28-29 will remain pending in the application. Applicants respectfully request entry of these amendments and reconsideration of the claims for reasons discussed below.

Applicants have canceled claims 4, 5, 9, 10, 17, and 23-27 without prejudice. The cancellation of claims 4, 5, 9, 10, 17, and 23-27 is not an admission of the non-patentability of the claims. Applicants have simply cancelled the claims to reduce issues for appeal and to place the application in condition for allowance.

Applicants have also amended claim 1 and added new claims 28 and 29 to clarify aspects of the invention. Claim 1 as amended represents claim 9 rewritten in independent form. New claim 28 represents claim 10 rewritten in independent form including the subject matter of intervening claim 7. New claim 29 represents claim 17 rewritten in independent form. Accordingly, claim 1 as amended and new claims 28 and 29 do not raise new issues that would require further consideration or a new search by the Examiner.

Claims 1, 5, 7, 9-11, and 13-20 stand rejected under 35 U.S.C. § 102(b) as being anticipated by *Rubin et al.*, U.S. Patent No. 4,852,516. Claim 4 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over *Rubin et al.*, U.S. Patent No. 4,852,516. The Examiner states that *Rubin et al.* shows the invention as claimed including a multi-chamber apparatus including an initial load lock chamber for storage connected to a multitude of process chambers each chamber including a modular plumbing tray and a chamber tray including links which include water lines, gas lines, vacuum lines, drain lines, and communication lines.

Applicants respectfully traverse the rejection. *Rubin et al.* discloses modular units having a chassis 102, a module for performing an operation 176, a service facility subassembly 104, and a docking plate 158 having connectors 174 for receiving the service facilities extending through the service conduit 172 of the subassembly 104. (See, *Rubin et al.* at col. 6, lines 12-28). *Rubin et al.* does not teach, show, or suggest a transfer chamber having one or more load lock chambers and process chambers disposable there-around, as recited in claim 1 as amended, claim 28, and those dependent therefrom. *Rubin et al.* also does not teach, show, or suggest a chamber tray disposable adjacent each process chamber, load lock chamber and transfer chamber, wherein each process chamber is disposable on each chamber tray, as recited in claim 1, as amended, and those dependent therefrom. Further, *Rubin et al.* does not teach, show, or suggest a plumbing tray disposable underneath the transfer chamber having facility connections for each process chamber and load lock chamber, as recited in new claim 29. Accordingly, Applicants respectfully request withdrawal of the rejection and allowance of the claims.

Claims 1, 4, 5, and 7 stand rejected under 35 U.S.C. § 102(b) as being anticipated by *Maher et al.*, U.S. Patent No. 4,715,921.

Applicants respectfully traverse the rejection. *Maher et al.* discloses a plasma etching system 10 consisting of four plasma reactors 12, a wafer queuing station 14, a reactant gas injection system 24, a processor 22, and a vacuum system 26 coupled to the plasma reactors. *Maher et al.* does not teach, show, or suggest one or more load lock chambers and process chambers disposable about a transfer chamber, and a plumbing tray disposable adjacent the transfer chamber and having facility connections for each process chamber and load lock chamber, as recited in claim 1, as amended, new claim 28, new claim 29, and those dependent therefrom. *Maher et al.* also does not teach, show, or suggest a chamber tray disposable adjacent each process chamber, load lock chamber and transfer chamber, wherein each process chamber is disposable on each chamber tray, as recited in claim 1 as amended and those dependent therefrom. Further, *Maher et al.* does not teach, show, or suggest a plumbing tray disposable underneath the transfer chamber having facility connections for each process chamber and load lock chamber, as recited in new claim 29. Accordingly, Applicants respectfully request withdrawal of the rejection.

Page 7

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Nov 8 2001 18:29 P.08

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Claims 1, 4, 5, 7, 9-11, 13-16, and 18 stand rejected under 35 U.S.C. § 102(e) as being anticipated by *Lei et al.*, U.S. Patent No. 6,083,321. The Examiner states that *Lei et al.* shows the invention as claimed including a transfer chamber 90; a modular plumbing tray 10 adjacent the transfer chamber and having connections from the facility to the process chambers; and a chamber tray adjacent the one or more of the process chambers including an injection control valve 18, the chamber tray having facility connections connected to one or more of the facility connections in the plumbing tray. Regarding claim 4, the examiner states that there are various manifold configurations clearly shown in Figure 3. Regarding claim 5, the examiner states that the gas delivery system 10 can be rigidly mounted to the process chamber 30 on a common module support frame 50. The examiner further states that components of the gas delivery system are listed in column 4, lines 48-58 and may include pumps and gas supplies and the respective plumbing required.

Applicants respectfully traverse the rejection. *Lei et al.* teaches a gas delivery system 10 that is positioned proximal or attached to the process chamber 30. (See, *Lei et al.* at col. 2, line 66 through col. 3, line 7). *Lei et al.* teaches that the gas delivery system receives a fluid from a remote source and transfers the fluid to the process chamber. (See, *Lei et al.* at col. 3, line 57 through col. 4, line 7). *Lei et al.* does not teach, show, or suggest a plumbing tray disposable adjacent the transfer chamber and having facility connections for each process chamber and load lock chamber. Therefore, *Lei et al.* does not teach, show, or suggest a chamber tray disposable adjacent each process chamber, load lock chamber and transfer chamber, wherein the chamber tray is in fluid communication with the facility connections of the plumbing tray, and wherein each process chamber and each chamber tray form a modular unit, as recited in claim 1, new claim 28, new claim 29, and those dependent therefrom. Further, *Lei et al.* does not teach, show, or suggest a plumbing tray disposable underneath the transfer chamber having facility connections for each process chamber and load lock chamber, as recited in new claim 29. Accordingly, Applicants respectfully request withdrawal of the rejection.

Claim 8 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over *Lei et al.*, U.S. Patent No. 6,083,321 or *Maher et al.*, U.S. Patent No. 4,715,921.

Applicants respectfully traverse the rejection. Both *Lei et al.* and *Maher et al.* have been distinguished above with reference to claim 1. Neither *Lei et al.* nor *Maher et al.* teaches, shows, or suggests all the limitations recited in claim 1. Since claim 8 depends from claim 1, claim 8 is patentable for at least the same reasons stated above for claim 1. Accordingly, Applicants respectfully request withdrawal of the rejection.

Claim 12 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over *Lei et al.*, U.S. Patent No. 6,083,321.

Applicants respectfully traverse the rejection. *Lei et al.* has been distinguished above with reference to claim 1. *Lei et al.* does not expressly or implied teach, show, or suggest all the limitations recited in claim 1. Since claim 12 depends from claim 1, claim 12 is patentable for at least the same reasons. Accordingly, Applicants respectfully request withdrawal of the rejection.

Claims 21-22 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over *Rubin et al.*, U.S. Patent No. 4,852,516.

Applicants respectfully traverse the rejection. *Rubin et al.* has been distinguished above with reference to claim 1. *Rubin et al.* does not expressly or implied teach, show, or suggest all the limitations recited in claim 1. Since claims 21-22 are dependent from claim 1, claims 21-22 are patentable for at least the same. Accordingly, Applicants respectfully request withdrawal of the rejection.

In conclusion, the references cited by the Examiner, neither alone nor in combination, teach, show, or suggest the claimed invention. Having addressed all issues set out in the office action, Applicants respectfully submit that the claims are in condition for allowance and respectfully request that the claims be allowed.

Respectfully submitted,



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Page 9

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Nov 8 2001 18:30 P.10

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APPENDIX

Markup of amended claims:

1. (Amended) An apparatus for processing substrates, comprising:
 - a) a transfer chamber;
 - b) one or more load lock chambers disposable about the transfer chamber;
 - c) one or more process chambers disposable about the transfer chamber;
 - d) a plumbing tray disposable adjacent the transfer chamber and having facility connections for each process chamber and load lock chamber; and
 - e) a chamber tray disposable adjacent each process chamber, load lock chamber and transfer chamber, the chamber tray in fluid communication with the facility connections of the plumbing tray, wherein each process chamber is disposable on each chamber tray.

11. (Amended) The apparatus of claim [10] 28, wherein the modular unit is mounted to the transfer chamber at the access port.